

For More Information

The Occupational Safety and Health Administration (OSHA) regulates occupational exposure to lead in 29 CFR 1910.1025. **Appendix A** of the regulation provides information on lead, its uses, and its potential health risks. **Appendix B** discusses exposure limits, monitoring requirements, medical surveillance, hygiene, and protective equipment. LLNL implemented this regulation in **Health & Safety Manual Supplement 21.20**, "Safe Handling of Lead and Lead Compounds in General Industry and Construction Operations."

Check to receive copies of:

☐ **OSHA Appendix A**

(or http://gabby.osha-slc.gov/OshStd_data/1910.1025_App_A.html)

☐ **OSHA Appendix B**

(or http://gabby.osha-slc.gov/OshStd_data/1910.1025_App_B.html)

☐ **H&S Manual Supp 21.20**

(or http://www.llnl.gov/llnl_only/es_and_h/hsm/supplement_21.20/sup21-20.html)

Or contact:

- Your ES&H Team
- Health Services Dept (ext 2-7459)

Help us improve this material.
Fill out an evaluation and mail to
Ellen Anson, L-143.

Quiz for HS4261 Credit

1) Symptoms of lead overexposure include all of the following EXCEPT:

- a) muscle and joint pain
- b) diarrhea
- c) loss of appetite and nausea
- d) anxiety and insomnia
- e) weakness and dizziness

2) The body absorbs *metallic* lead through the skin, mouth, lungs, and stomach.

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3) Which would NOT prevent lead exposure?

- a) washing your hands
- b) using exhaust ventilation
- c) drinking water after lead work
- d) avoid making airborne dust
- e) eating away from lead areas

4) If you work with lead and are planning a family, you should consult with Health Services only after conception.

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5) Long-term overexposure to lead can result in which health problems? Check all that apply.

- ☐ kidney disease
- ☐ anemia and other blood disorders
- ☐ reproductive impairments
- ☐ damage to the nervous system

6) At LLNL lead should be suspected in old paint or primer, vehicle batteries, shielding, and solder.

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Mail quiz to Ellen Anson at
L-143.

Lead Awareness S HS4261

This course does not satisfy OSHA training for lead workers!

Lead workers must take HS 4262.

If you have questions about which training your job requires contact your ES&H Team Industrial Hygienist.

Hazards Control

Name: _____

Ext: _____ L-code: _____

Employee No: _____
Date: _____

This course is available online at:
www.training.llnl.gov/training/

Why Worry About Lead?

Lead is a common material with potential health hazards. Although elevated lead exposure levels are uncommon at LLNL, you may encounter low levels as part of your job.

Uses of lead at LLNL include:

- lead paint pigments or primer
- lead shielding
- vehicle batteries
- ammunition primer and bullets at the Site 300 target range
- soldering

Lead is a potent poison.

Short-term exposure to high doses of lead can make you seriously ill. Long-term overexposure can cause numerous health problems, including:

- reproductive impairments in men (impotence and sterility) and women (decreased fertility, abnormal menstrual cycles, and miscarriages)
- anemia and other blood disorders
- damage to your nervous system and brain
- kidney disease

Lead can cause birth defects, mental retardation, behavioral disorders, and death in fetuses and young children. You can expose your family to lead if you

bring it home on your clothes, skin, or hair.

Health Hazards of Lead

Your body absorbs lead through your lungs, mouth, and stomach. You cannot absorb *metallic* lead through your skin, but some lead compounds, such as tetraethyl lead, go through skin rapidly. Yet most of the time you can touch lead with no serious health effects. **But you must avoid breathing lead dust or getting lead particles in your mouth.**

Lead absorbed by inhalation (breathing) or ingestion (eating) ends up in your bloodstream where it circulates through your body and is stored in various organs and tissues. Your body can slowly excrete some lead, but not all. If lead exposure continues, the amount stored in your body increases and causes permanent damage.

Will I Know I'm Sick?

Symptoms of lead overexposure are:

- loss of appetite
- metallic taste in the mouth
- nausea
- constipation
- weakness and excessive tiredness
- insomnia
- headache
- dizziness

- anxiety, irritability, and restlessness
- muscle and joint pain
- numbness

Who Do I Contact?

Call Health Services (ext. 2-7459) immediately if you develop symptoms after working with lead.

You should also notify Health Services if you work with lead and

- have a high lead blood level from past exposure
- encounter additional offsite sources of lead
- have a medical condition aggravated by lead exposure
- plan to have children or are pregnant

Can I Protect Myself?

The following precautions will minimize exposure to lead:

- plan each job to avoid making dust or fumes
- use exhaust ventilation whenever possible
- clean all surfaces immediately after using lead
- avoid going home with lead-contaminated hair, skin, or clothing
- wash your hands after lead work
- do not eat, drink, smoke, or apply cosmetics in areas with lead

Your supervisor and/or your ES&H Team can tell you

**how to protect yourself
from lead exposure in your
specific job.**